

# PATENT COOPERATION TREATY

## PCT


### INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

REC'D 12 DEC 2005

PCT

Applicant's or agent's file reference MULTI-037		<b>FOR FURTHER ACTION</b>		See Form PCT/IPEA/416
International application No. PCT/BR2004/000121		International filing date (day/month/year) 19.07.2004	Priority date (day/month/year) 21.07.2003	
International Patent Classification (IPC) or national classification and IPC F25B39/02				
Applicant MULTIBRAS S.A. ELETRODOMESTICOS et al.				
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 6 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> sent to the applicant and to the International Bureau) a total of sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>				
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the opinion</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>				
Date of submission of the demand  21.02.2005		Date of completion of this report  12.12.2005		
Name and mailing address of the international preliminary examining authority:  European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016		Authorized Officer  Léandre, A  Telephone No. +31 70 340-8985		



**INTERNATIONAL PRELIMINARY REPORT  
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International application No.  
PCT/BR2004/000121

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**Box No. I Basis of the report**

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1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This report is based on translations from the original language into the following language, which is the language of a translation furnished for the purposes of:

- ☐ international search (under Rules 12.3 and 23.1(b))
- ☐ publication of the international application (under Rule 12.4)
- ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the **elements\*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

**Description, Pages**

1-5 as originally filed

**Claims, Numbers**

1-6 as originally filed

**Drawings, Sheets**

1/1 as originally filed

☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing (*specify*):
- ☐ any table(s) related to sequence listing (*specify*):

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing (*specify*):
- ☐ any table(s) related to sequence listing (*specify*):

\* If item 4 applies, some or all of these sheets may be marked "superseded."

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**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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1. Statement

Novelty (N)	Yes: Claims	4-6
	No: Claims	1-3
Inventive step (IS)	Yes: Claims	
	No: Claims	1-6
Industrial applicability (IA)	Yes: Claims	1-6
	No: Claims	

2. Citations and explanations (Rule 70.7):

**see separate sheet**

Re Item V.

- 1 The following documents are referred to in this communication:

D1 : EP 0 407 353 A (SIGNET SYSTEMS INC), 9 January 1991 (1991-01-09)

D2: US-A-5 910 166 (JUNGE BRENT A ET AL) 8 June 1999 (1999-06-08)

2 CLARITY

Claim 1 does not meet the requirements of Article 6 PCT in that the matter for which protection is sought is not clearly defined. The claim attempts to define the subject-matter in terms of the result to be achieved, which merely amounts to a statement of the underlying problem, without providing the technical features necessary for achieving this result.

The support for this objection can be found in the following passage of claim 1 :  
"... which are dimensioned so as to guarantee, to the refrigerant fluid flow, a more uniform speed along the different tube portions, without altering the flow rate of this refrigerant fluid between the inlet (11) and the outlet (12) of the tube extension (10)."

3 INDEPENDENT CLAIM 1

The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 is not new in the sense of Article 33(2) PCT.

Document D1 discloses (the references in parenthesis applying to figure 5 of this document):

An evaporator (32) for a refrigeration appliance comprising a tube extension (34) presenting an inlet (33) for the refrigerant fluid in liquid state (see column 5, lines 51 and 52) and an outlet (39) for the refrigerant fluid in gaseous state (see column 6, lines 25 to 28), wherein said tube extension (34) comprises at least two tube portions (34,39) arranged in series and having different diameters (see column 6, lines 8 to 12 and lines 22 to 25), which are dimensioned so as to guarantee, to the refrigerant fluid flow, a more uniform speed along the different tube portions (see column 6, lines 12 to 16), without altering the flow rate of this refrigerant fluid between the inlet (33) and the outlet (39) of the tube extension (34).

The attention of the applicant is drawn to the fact that, although document D1

does not explicitly mention the influence of varying diameters on the fluid flow speed and flow rate, the fact that these parameters are directly linked to the pressure drop belongs to the core knowledge of the skilled man. As such, the problem of minimizing the pressure drop tackled in D1 can be equally interpreted in fluid flow speed or flow rate terms.

The subject-matter of claim 1 is therefore not new in the sense of Article 33(2) PCT.

#### 4 DEPENDENT CLAIMS 2-6

4.1 Dependent claims 2 to 4 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty (Article 33(2) PCT).

Further using document D1 as the closest prior art :

Claim 2 An evaporator **(32)** wherein a transition region **(35b)** interconnecting each two tube portions **(34, 39)** of different diameters is arranged in series (see column 6, lines 16 to 22).

Document D1 makes use of a split tube **(35b)** inserted between two evaporator tube portions of different diameters, effectively making said split tube **(35b)** a transition region put in series between those evaporator tube portions and interconnecting them.

Claim 3 An evaporator **(32)** wherein said transition region **(35b)** has a diameter that varies between the diameters of the tube portions to which it is interconnected (see column 6, lines 16 to 22).

Claim 4 An evaporator wherein the transition region **(35b)** has a diameter that varies gradually (see figure 2, reference number 23).

4.2 Dependent claims 5 and 6 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of inventive step (Article 33(3) PCT).

Claim 5 Frusto-conical transition regions are known in the art. See for instance document D2, figure 4.

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(SEPARATE SHEET)**

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Claim 6 Transition regions under the form of an annular tube portion disposed orthogonally to the axis of the tube portions they are interconnected are also known in the art. See for instance document D2, figure 5, reference number 64.

**5 INDUSTRIAL APPLICABILITY**

The subject-matter of claims 1 to 6 has been deemed industrially applicable in the sense of Article 33(4) PCT.